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“Development on the margin”

Managing Forest Wildlife for Human Livelihoods: A Multi-agent Systems Model to Assess Socio-economic and Ecological Sustainability

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Abstract

Bushmeat consumption, the consumption of meat from wild forest animals, is an important part of livelihoods in rural West- and Central Africa. Based on extraction-production models it has been suggested that in the Congo Basin bushmeat protein supply would drop by 81 % by 2050 in a ‘no-change’ scenario of current extraction levels. In order to secure this resource for the future, sustainable harvesting in community-based wildlife management (CWM) approaches is a potential option, aiming at maintaining the recommended daily protein allowance (RDA of 52 g per person per day, FAO). However, the social, economic and ecological sustainability of forest wildlife management has rarely been investigated in a holistic approach.

The poster presents the approach of an international and interdisciplinary African-German research team to assess conditions under which CWM can be made socio-economically and ecologically sustainable. In a multi-agent system (MAS) approach, we study principal actors (or ‘agents’: e.g. hunters, traders, wildlife), their characteristics and their relationships and simulate effects of different approaches to manage wildlife, in particular populations of two species of small- and medium-sized antelopes (‘duikers’ *Cephalophus* spp.) on household economy. Data are being gathered for an ‘artificial’ model landscape of the Korup / Oban Hills region (CMR and NGR) on site, and aims at simulating a realistic picture of the current system in this and other, similar regions. We use the CORMAS platform, which serves as main tool both for scientific analysis and for companion modelling in negotiations with stakeholders. The project is composed of five subprojects and has a strong research capacity building component: during 2008–2011 it supported four PhD, nine Master level (including two Diploma, six M.Sc., one M.A.), nine Forest Engineer (Diplome d’Ingenieur des Eaux et Forêts) and an uncounted number of B.Sc. level students. Nineteen of these 23 students are African nationals.

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